

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A catheter system having a first end and a second end, the catheter system comprising:

an elongated, flexible, hollow outer tubular member having a distal end and a proximal end;

an elongated, flexible, inner tubular member having a distal end and a proximal end;

said inner tubular member disposed within said outer tubular member such that a fluid channel having a fluid channel length is defined between the inner and outer tubular members, the fluid channel length extending a majority of a distance between the first end of the catheter system and the second end of the catheter system, said inner and outer tubular members being slidable relative to one another;

a stent mounting location located near said distal ends of said inner and outer tubular members;

at least one spacer disposed within said fluid channel between said inner tubular member and said outer tubular member for maintaining a spacing between said inner tubular member and said outer tubular member, said spacer longitudinally traversing a portion of said fluid channel length;

an admission port extending through a wall of the outer tubular member and in fluid communication with said fluid channel; and

first and second discharge openings in fluid communication with said fluid channel, the discharge openings being located proximal and distal of the stent mounting location and extending through a wall of said outer tubular member to permit fluid flow from said admission port and fluid channel to a patient's lumen.

~~a first fluid exchange aperture and a second fluid exchange aperture, each of said apertures being located adjacent said distal end of said outer tubular member to~~

~~deliver a media from said passageway to a patient's body lumen, said first and second fluid exchange apertures being positioned adjacent to opposite ends of said stent, the fluid exchange openings being located proximal and distal of the stent mounting location~~

2. (Original) The catheter system according to claim 1, wherein said spacer is a longitudinal spacer extending a majority of a length from said proximal end to said distal end of said inner and outer tubular members.
3. (Original) The catheter system according to claim 1, wherein said spacer is a continuous longitudinal extension traversing a majority of a length from said proximal end to said distal end of said inner and outer tubular members.
4. (Previously presented) The catheter system according to claim 1, wherein said spacer traverses at least 25 percent of said fluid channel length.
5. (Previously presented) The catheter system according to claim 1, wherein said spacer traverses at least 50 percent of said fluid channel length.
6. (Previously presented) The catheter system according to claim 1, wherein said spacer traverses at least 75 percent of said fluid channel length.
7. (Original) The catheter system according to claim 1, wherein said spacer traverses a majority of said fluid channel length.
8. (Original) The catheter system according to claim 1, wherein said spacer is disposed to centrally position said inner tubular member within said outer tubular member.
9. (Withdrawn) The catheter system according to claim 1, wherein said spacer is disposed to maintain said inner tubular member in an offset position within said outer tubular member.

10. (Original) The catheter system according to claim 1, wherein said spacer is a spline elongated in a direction along a length of the catheter system.
11. (Original) The catheter system according to claim 10, wherein said catheter system includes a plurality of splines elongated along the length of the catheter system.
12. (Withdrawn) The catheter system according to claim 11, wherein said splines couple to said outer tubular member and project inwardly towards said inner tubular member.
13. (Previously presented) The catheter system according to claim 11, wherein said splines are coupled to said inner tubular member and project outwardly towards said outer tubular member.
14. (Original) The catheter system according to claim 1, wherein said spacer includes a plurality of radial, spaced-apart spacer members that extend longitudinally along said fluid channel.
15. (Withdrawn) The catheter system according to claim 1, wherein said spacer comprises at least one helical spacer extending along a length of said fluid channel.
16. (Withdrawn) The catheter system according to claim 15, wherein said helical spacer is coupled to said inner tubular member and projects radially outward from said inner tubular member.
17. (Previously presented) The catheter system according to claim 1, wherein said spacer includes at least one thermal bonding surface to fixedly couple said spacer to one of said inner tubular member and said outer tubular member.
18. (Original) The catheter system according to claim 17, wherein said bonding surface is located adjacent the distal end of said outer tubular member.

19. (Original) The catheter system according to claim 1, wherein said inner tubular member is hollow to track over a guide wire.

20.-22. (Canceled)

23. (Previously presented) The catheter system according to claim 1, wherein said stent mounting location comprises a self-expanding stent arrangement for self-expanding stent delivery, and wherein a stent mounted at the stent mounting location is exposed by axially retracting said outer tubular member relative to said inner tubular member.

24. (Canceled)

25. (Previously presented) A stent delivery system, comprising:

- an outer tubular member having a distal end and a proximal end;

- an inner tubular member having a distal end and a proximal end;

- said inner tubular member disposed within said outer tubular member defining a passageway therebetween;

- at least one spacer disposed between said inner tubular member and said outer tubular member for maintaining a spacing between said inner tubular member and said outer tubular member, said spacer longitudinally traversing a portion of said passageway;

- a stent positioned proximate said distal end of said inner tubular member;

- an admission port in fluid communication with said passageway; and

- a first fluid exchange aperture and a second fluid exchange aperture, each of said apertures being located adjacent said distal end of said outer tubular member to deliver a media from said passageway to a patient's body lumen, said first and second fluid exchange apertures being positioned adjacent to opposite ends of said stent.

26. (Original) The stent delivery system of claim 25, wherein the fluid exchange aperture extends radially through the outer tubular member.
27. (Canceled)
28. (Original) The stent delivery system of claim 25, wherein the stent is a self-expanding stent.
29. (Original) The stent delivery system of claim 28, wherein the self-expanding stent is exposed by slidably retracting said outer tubular member relative to said inner tubular member.
30. (Original) The stent delivery system of claim 25, further including a pressure measuring device for measuring fluid pressure within the passageway.
31. (Original) The stent delivery system of claim 25, wherein the outer tubular member includes a sheath portion for covering the stent, and wherein the sheath portion defines at least one fluid exchange aperture.
32. (Previously presented) A stent delivery system, comprising:
- (a) a stent;
 - (b) a catheter including a stent mounting location at which the stent is mounted:
 - (i) the catheter further including a retractable sheath for covering the stent;
 - (ii) a spacer element defining a fluid exchange passageway between itself and the sheath, the fluid exchange passageway including fluid exchange openings that extend through a wall of the sheath and open to an exterior of the catheter, at least two of the fluid exchange openings being located proximal and distal of the stent mounting location, respectively, and another of the fluid exchange openings being located at the proximal end of the catheter.

33. (Previously presented) A catheter system, comprising:

- an elongated, flexible, hollow outer tubular member having a distal end and a proximal end;

- an elongated, flexible, inner tubular member having a distal end and a proximal end; said inner tubular member disposed within said outer tubular member such that a fluid channel having a fluid channel length is defined between the inner and outer tubular members, said inner and outer tubular members being slidable relative to one another;

- a stent mounting location located near said distal ends of said inner and outer tubular members;

- a plurality of splines elongated along a length of the catheter system and disposed within said fluid channel between said inner tubular member and said outer tubular member for maintaining a spacing between said inner tubular member and said outer tubular member, said splines longitudinally traversing of a portion of said fluid channel length;

- an admission port extending through a wall of the outer tubular member and in fluid communication with said fluid channel; and

- first and second discharge openings in fluid communication with said fluid channel, the discharge openings being located proximal and distal of the stent mounting location and extending through a wall of said outer tubular member to permit fluid flow from said admission port and fluid channel to a patient's lumen.

34. (Previously presented) A catheter system, comprising:

- an elongated, flexible, hollow outer tubular member having a distal end and a proximal end;

- an elongated, flexible, inner tubular member having a distal end and a proximal end;

- said inner tubular member disposed within said outer tubular member such that a fluid channel having a fluid channel length is defined between the inner and outer tubular members, said inner and outer tubular members being slidable relative to one another;

a stent mounting location located near said distal ends of said inner and outer tubular members;

a plurality of radial, spaced-apart spacer members that extend longitudinally along said fluid channel for maintaining a spacing between said inner tubular member and said outer tubular member, said spacer longitudinally traversing a portion of said fluid channel length;

an admission port extending through a wall of the outer tubular member and in fluid communication with said fluid channel; and

first and second discharge openings in fluid communication with said fluid channel, the discharge openings being located proximal and distal of the stent mounting location and extending through a wall of said outer tubular member to permit fluid flow from said admission port and fluid channel to a patient's lumen.

35. (Previously presented) The catheter system according to claim 1, wherein said spacer traverses 25 percent of said fluid channel length.

36. (Previously presented) The catheter system according to claim 1, wherein said spacer traverses 90 percent of said fluid channel length.